Evolution and Genetics Guided Notes

What is \_\_\_\_\_\_\_\_\_\_\_\_\_\_?

• Evolution: \_\_\_\_\_\_\_\_\_\_\_\_\_ over time

• \_\_\_\_\_\_\_\_\_\_\_\_\_ evolution: change over time in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of related organisms

• The \_\_\_\_\_\_\_\_\_\_\_\_\_\_ that organisms and landforms change over time is scientifically described using the Theory of Evolution, the Plate \_\_\_\_\_\_\_\_\_\_\_\_\_\_ Theory and the Law of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Charles Darwin

• English \_\_\_\_\_\_\_\_\_\_: person who studies plants and animals by \_\_\_\_\_\_\_\_ them

• Served on the \_\_\_\_\_\_\_\_\_\_, a survey ship of the British navy, in the early 1830s

• He observed \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ with different neck lengths on different \_\_\_\_\_\_\_\_\_\_\_\_\_\_ in the Galapagos.

• He became convinced that all the tortoise species were \_\_\_\_\_\_\_\_\_\_\_, sharing a common \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

• \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_: slight difference in an \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ trait of individual members of a species

• A rise \_\_\_\_\_\_\_\_\_\_\_\_\_\_ in populations

• Occur in \_\_\_\_\_\_\_\_\_\_\_\_ as a result of sexual reproduction

• Variations are caused by \_\_\_\_\_\_\_\_\_\_\_\_\_ mutations (changes) in \_\_\_\_\_\_\_\_\_\_\_, which result in a change in \_\_\_\_\_\_\_\_\_\_ (all of the \_\_\_\_\_\_\_\_\_\_\_\_ characteristics and traits of an organism)

• \_\_\_\_\_\_\_\_\_selection: the process by which populations of organisms with variations that help them \_\_\_\_\_\_\_\_\_\_ in their environments \_\_\_\_\_\_\_\_\_\_ longer, \_\_\_\_\_\_\_\_\_\_\_\_\_\_ better and \_\_\_\_\_\_\_\_\_\_\_ more than those who do not have the variations

• \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ resource: something that organisms have to compete for in order to \_\_\_\_\_\_\_\_\_\_\_\_\_ (ex: \_\_\_\_\_\_\_, water, mates, space/\_\_\_\_\_\_\_\_\_\_)

• Darwin didn’t know about genes, but he understood about limiting resources and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. To him, natural selection explained the process by which the tortoises became \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ to their food sources.

• Biological evolution accounts for the \_\_\_\_\_\_\_\_\_\_\_\_ of species developed through \_\_\_\_\_\_\_\_\_\_\_\_\_ processes over many generations

• \_\_\_\_\_\_\_\_\_\_\_\_\_\_: inherited (\_\_\_\_\_\_\_\_) trait that increases an organism’s chance of surviving and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ in that environment

• Types of adaptations



• \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_adaptations involve \_\_\_\_\_\_\_, shape and other physical characteristics

• Camouflage: adaptation that enables a species to \_\_\_\_\_\_\_\_\_ in with its environment

• \_\_\_\_\_\_\_\_\_\_\_\_\_\_: resemblance of one species to another

• \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_adaptations involve the way an organism behaves or \_\_\_\_\_\_\_\_ (hunting at \_\_\_\_\_\_\_\_\_\_\_\_\_ or moving in herds)

• \_\_\_\_\_\_\_\_\_\_\_\_ adaptations involve internal body systems that affect \_\_\_\_\_\_\_\_\_\_\_\_\_ (ex: drop in body temperature during ­­­­­\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_).

• \_\_\_\_\_\_\_\_\_\_\_\_\_\_ breeding: breeding of organisms for \_\_\_\_\_\_\_\_\_\_\_\_\_ characteristics

• Darwin called this process \_\_\_\_\_\_\_\_\_\_\_\_\_ selection

Biological Evidence of Evolution

• \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ anatomy: study of similarities and differences among structures of \_\_\_\_\_\_\_\_\_\_ species

• \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_structures: body parts of organisms that are similar in \_\_\_\_\_\_\_\_\_\_\_ and position but different in \_\_\_\_\_\_\_\_\_\_\_\_\_

• \_\_\_\_\_\_\_\_\_\_\_\_\_ structures: body parts that perform a similar \_\_\_\_\_\_\_\_\_\_\_\_ but differ in \_\_\_\_\_\_\_\_\_\_\_\_\_\_

• \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_structures: body parts that have \_\_\_\_\_\_\_\_\_ their original function through evolution

• ex: human tailbone, \_\_\_\_\_\_\_\_\_\_\_\_

Developmental Biology

• \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_: the study of the development of embryos from fertilization to birth

• Embryos of different species often \_\_\_\_\_\_\_\_\_\_\_\_\_ each other at different stages of their development